PHILADELPHIA.

INSPECTION

—OF—

Hardwoods, &c.

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Published by
J. C. WILLIAMS,
Philadelphia, Pa.
1869.

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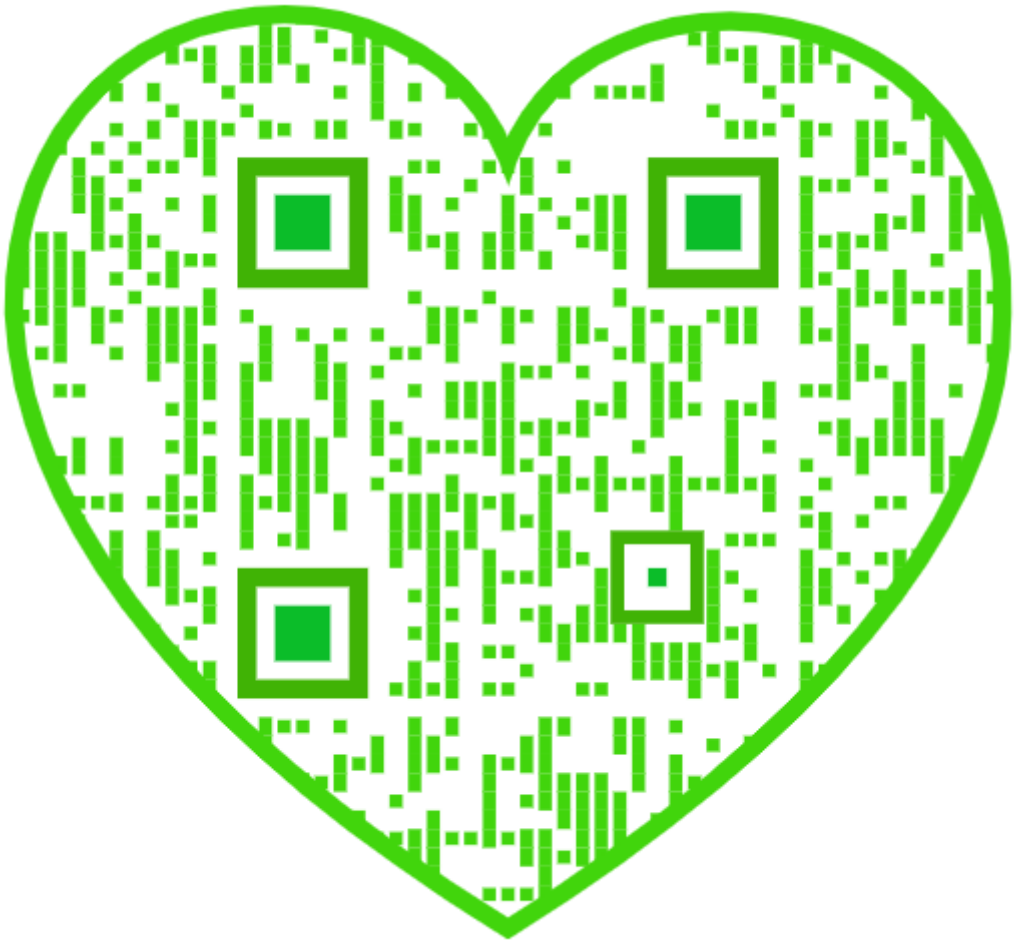
Church, 127 S. Third St., Phila.



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PHILADELPHIA.

J. C. Williams

INSPECTION OF

HARDWOODS, &C

—SUGGESTIONS TO—

DEALERS,

OWNERS,

SHIPPERS,

AND

MANUFACTURERS.

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PREFACE.

Quite a variety of pertinent as well as practical ideas have been advanced, many of which have proved to be valuable. A practical idea is something that carries along with it a base or foundation from which tangible, as well as correct, results follow. It is not so much the object of the author to tax the mind with the number of defects admissible in the various dimensions, as it is to show the location, which determine value. Therefore, in presenting this little book to the public, it is deemed advisable to set forth in a plain, practical manner such rules governing the inspection of Hardwoods, &c., as shall meet a long felt want, as well as to establish (if possible) a standard that will reduce the various methods now in use to one common system.

J. C. WILLIAMS.

Philadelphia, 1889.

Care in the Manufacturing of Lumber.

Carelessness on the part of manufacturers of lumber, (especially Hardwoods of value), has done much toward creating dissatisfaction between shippers and buyers; too much care cannot be exercised in the manufacturing and care of lumber. One eighth of an inch should be allowed in all thicknesses of lumber manufactured from green logs, (this allowance for drying and surfacing.) Owners of timber suffer no loss by observing this rule; lumber properly manufactured not only finds ready sale, but is sought after, which necessarily increases its value Presuming that necessary pains have been exercised in the manufacturing, it is just as essential, if indeed full value is to be realized, that the following be strictly observed in preparing for shipment: To avoid *Crooks* prepare a good solid foundation for its reception; each length should be on its own pile; spaces between strips should not exceed four feet; each strip should be carefully placed, as

one mislaid strip is liable to crook or damage several boards or plank. To prevent checks or stain, lumber should be piled as soon as sawed, always using dry or seasoned strips (which should be of uniform thickness and from two to three inches wide), thus preserving the natural brightness; seasoned strips will absorb sap and thus prevent stain, mould or burn, as it is usually termed; strips should project at the ends, thus preventing checks; the moisture thus retained keeps the ends from drying too quickly, hence, the importance of uniform lengths. Lumber is much better preserved if seasoned under shed.

GENERAL REMARKS.

It is not economy on the part of manufacturers or owners of lumber to ship thick culls; any thickness above that of two inches (especially Walnut) should be cut into dimension stock and shipped as such. The market value of 2¼, 2½, 3 and 4-inch plank, common or culls, will not compensate for the extra

trouble and expense of carrying in stock until dry enough for use, beside being then used or cut into dimensions. The above thicknesses for shipping (as plank) should be rejects and bet ter which are always in fair demand The market value of No. 1 and No 2 Walnut should be governed: *First*, by the percentage of No. 1's; *Second*, by length and width. Short, narrow lumber is not so valuable as fair widths and standard lengths; 12, 14 and 16 foot lengths are most desirable, hence, they should be termed *standard*. If a car contains 8,000 feet of No. 1 and No 2 Walnut, there should not be more than one-fourth the sum total (in feet) 8 and 10 feet long, and not more than one-half of one-fourth 8 feet long. If in parcels of lumber, log-run or otherwise, the amount of short exceeds the one-fourth and the half of one-fourth, (this with reference to the grades No. 1 and No 2 only) there should be a special price agreed upon: *First*, so as to not destroy *standard* or uniformity. *Second*, because it decreases value, standard rejects should admit of one-third 10 or less feet in length, the length admissible governed by the

width, as per inspection Page 12 The proportion of short, narrow lumber always governing the market value. A defect is anything that destroys perfection, carelessness in the manufacturing of lumber, sap, knots, checks, wind-shakes, bark specks, stain, rough, uneven ends, lengths and widths.

REMARKS—INSPECTION.

The attention of those who are engaged in the buying and selling of lumber, is frequently called to what is termed STANDARD INSPECTION, a thing that, in reality, does not exist, save in the imagination.

A rule (definite) void of merit to govern.

Those who are directly interested, admit that there are not two *Counters* that inspect alike; it is simply too indefinite to give the number of defects admissible without some idea of location; in other words, it is purely guesswork, and if not satisfactory there remains no legal remedy, as the opinion of one offsets that of another. A board may be

valuable, (though imperfect) for a certain line of work, and still be worthless for uses where some particular quality is necessary; therefore, it is by no means the prerogative of the inspector to consider the various uses in order to determine quality; this should be regarded as a purely business advantage or disadvantage, the adjustment of which should be left entirely where it belongs; with the retail dealer and consumer of lumber.

There are two classes of inspectors, the *Practical* and the *Surface* The *Practical* must necessarily possess a knowledge equal to that of the consumer, who estimates value by the actual contents of a board or piece of lumber. *Surface* inspectors are those who can see defects, and count the number of standard knots admissible, but have not a practical knowledge of where they should be located so as to not change or destroy value, as well as the possibility of standard or uniform inspection Inspection cannot be uniform unless based solely upon value; this can be accomplished only by giving cuts of various

grades, locating defects in such a manner as will establish one right simple mode.

Inspection—Black Walnut.

Grade No. 1. The least dimension admissible is 10 feet long, and 8 inches wide, or, 8 feet long, and 10 inches wide, which must be strictly clear. 8 to 10 inches wide, 12 feet long, sap one edge, one inch on face side, and not to exceed one-third the length of board or plank otherwise clear; if without sap, check one end not to exceed 6 inches. 12 to 14 inches wide, 12 to 14 feet long, sap one edge one inch on face side. otherwise clear If without sap, one standard knot, (a standard knot must not exceed in dimensions that of a silver half dollar) if within 12 inches of the end of the board, in the absence of both sap and knot, check one end not to exceed 10 inches. 14 inches and over wide, 14 feet and over long, sap one edge, one inch on face side, and one standard knot; if within 14 inches of the end, otherwise clear, if without sap and end knot, one standard knot; if within 3 inches

of the edge, in the absence of both sap and knot, check both ends not to exceed 6 inches, or check one end only, not to exceed 14 inches. Defects, such as are not mentioned, are admissible, in the absence of such as are mentioned, as per above rule.

Grade No. 2. The least dimension admissible is 10 feet long, and 6 inches wide, which must be strictly clear. 8 inches wide and 8 feet long, must be clear, except very small defect on the extreme edge, or end of board or plank; as the length and width are considered defects. 8 to 10 inches wide, 10 to 12 feet long, will admit of sap one edge, one inch on face side, and one standard knot, if not more than 6 inches from the end, (see cuts Nos. 1 and 2.) If without sap, two standard knots, the one being within 6 inches of the end, and thus not changing value beyond that of sap; if without end knot, check one end, not to exceed 6 inches. 10 to 12 inches wide, 10 to 12 feet long, two standard knots, regardless of location, if otherwise clear; if but one knot, sap one edge, one inch on face side, if clear of knots, check both ends not to exceed 6 inches,

in addition to sap one edge. 12 to 14 inches wide, 12 to 14 feet long, sap one edge as per above; and two standard knots, if one is within 12 inches of the end. All dimensions allowing a sap defect on one edge only, the other edge must be without defect. 14 inches and over wide, 14 feet and over long, sap one edge as per above, and three standard knots (see cut Nos. 3 and 4) If two are within 10 inches of the end or ends, if but two knots, check one end not to exceed 8 inches, in addition to sap one edge; if without sap defect, three standard knots regardless of location.

REJECTS—BLACK WALNUT.

The least dimension admissible, is 4 to 6 iuches wide, and 8 to 10 feet long, 4 inches wide and 8 feet long, must be clear; 6 inches wide, 8 and 10 feet long, must be clear on face side, except very little sap, but will admit of sap on sap side, if it does not connect; which would destroy the strength of board or plank, and cause it to spring. 6 to

8 inches wide, 6 to 8 feet long, will admit of a small edge or end defect; otherwise clear. 8 to 10 inches wide, 10 to 12 feet long, sap one edge, one inch on face side, and two standard knots; if without sap, check one end not to exceed 8 inches, (see cut Nos. 5 and 6.) If without knots check both ends not to exceed 7 inches in addition to sap one edge. 12 to 14 inches wide, 12 to 14 feet long, sap one edge as per above, and three standard knots, if one is not more than 12 inches from the end, the remaining two; regardless of location, if but two knots check one end not to exceed 10 inches, in addition to sap one edge; if clear of knots, sap both edges as per above, check one end not to exceed 10 inches. 14 inches and over wide, 16 feet and over long, sap one edge, one inch on face side, and four standard knots; (see cuts Nos. 7 and 8), if two are within 12 inches of the end of board or plank; if but three knots, check one end not to exceed 10 inches, if but two knots, check both ends, not to exceed 10 inches; two knots only, sap both edges; otherwise clear,

CULLS—BLACK WALNUT.

Merchantable culls, are boards or plank of any dimension, such as cannot be admitted with the reject grade, and yet this grade is of no less importance to the general trade than the better grades, and should be manufactured with as much care as that of No. 1 grade. A merchantable cull is any board or plank, properly manufactured, from which one-half of its contents can be used, or cut to advantage. Mill culls are such as will not pass as per above standard and should be shipped as mill culls.

LOCATION OF DEFECTS.

Fig. 1. Represents a No. 2 board or plank, 8 inches wide, 10 feet long, with sap one edge, and one standard knot as per inspection.

Fig. 2. Represents a board or plank of the same dimensions, with the same defects differently located, which necessarily reduces value, equal to one grade lower, hence it is a reject, or such as are termed line boards.

Fig. 3. Represents a No. 2 board or plank, 14 inches and over wide, 14 feet and over long, with sap one edge, and three standard knots; to admit of sap one edge and three standard knots in a No 2 board or plank of the above dimension, the knots must either be on a line or not varying more than the diameter of a standard knot.

Fig. 4. Represents the same dimension as that of Figure 3 ; this to be a No. 2 board or plank, with knots located as they are, must be free from sap.

Fig. 5. Represents a reject board or plank, 8 inches wide, and 10 feet long with check one end, and two standard knots ; as per inspection.

Fig. 6. Represents a board or plank of the same dimensions, as that of Fig. 5, with check in one end and two standard knots, but differently located, which changes the value equal to one grade lower, one of the two knots, within 8 inches of the end, it would then be what is termed a reject, not a line board.

Fig. 7. Represents a reject board or plank, 14 inches and over wide, 14 feet and over

long, sap one edge, and four standard knots, two not to exceed 12 inches from the ends, one edge strictly clear of defects, location of knots corresponding with that of Fig 3.

Fig. 8. Represents a board or plank of the same dimensions as that of Fig. 7, with sap one edge, and four standard knots, the value being changed by the location of knots, especially the one near the edge of board, which would reduce it one grade lower; knots located as they appear, without sap on the edge, Fig. 8 would then be a reject. The above rule applies also to the inspection of Cherry, Oak, Ash, Chestnut aud Poplar. Sap being a defect in certain kinds of lumber destroys value to a greater or less extent, why not manufacture properly, and thus realize full value?

No. 1. No. 2. No. 3. No. 4.

No. 5
No. 6
No. 7.
No. 8.

Remarks—Cherry Boards and Plank.

Since the manufacturers of Cherry lumber have forced upon the trade a quality known as moulding strips, (clear face 3 to 6 inches wide, 10 feet and over long) culls have become almost worthless. The difference in the market value of No. 1 and No. 2 cherry and culls, compared with other hardwoods of like value, clearly indicate the almost worthlessness of the cull grade. There should be no reject grade; as all the good culls on the one hand, are re-manufactured into moulding strips, and on the other, all *good* or line boards, are liable to be put into the reject grade; the result is, that the remainder is simply refuse, and scarcely worth the cost of shipping, which is certainly a disadvantage to both shipper and dealer.

Inspection—Cherry Boards and Plank.

Grade No. 1. The least dimension admissible in No. 1 grade, is 8 inches wide and 10

feet long, which must be clear. 8 to 10 inches wide, 10 to 12 feet long, sap one edge, not to exceed one inch on face side, and not to exceed one-third the length of board or plank. If without sap, a corresponding defect instead, but must not change the value, as per sap above, otherwise clear. 12 to 14 inches wide, 12 to 14 feet long, sap one edge, one inch on face side; if without sap, one standard knot, if within 12 inches of the end. If without sap and knot, check one end not to exceed 8 inches. 14 inches and over wide, 14 feet and over long, sap one edge as per above, one standard knot, if within 6 inches of the end; if without sap and knot, check both ends not to exceed 6 inches; if clear, except sap as per above, check one end not to exceed 10 inches. In the absence of defects above mentioned, such as gum specks, stain, burn, wormholes, &c., which are incident to cherry, are admissible, both as to number and location, but must not change the value of boards or plank, as per above rule, and thus destroy standard or uniformity.

INSPECTION—CHERRY.

Grade No. 2 The least dimension admissible is 7 inches wide, and 10 feet long, which must be clear. 8 to 10 inches wide, 8 to 10 feet long, will admit of sap one edge, one inch on face side; if without sap, one other defect equal to that of sap. 8 to 10 inches wide, and 12 to 14 feet long, two standard knots, if one is within 2 inches of the edge, or within 12 inches of the end; otherwise clear, if but one knot, check one end not to exceed 10 inches; if clear of knots, check both ends if not more than 8 inches In the absence of one of the above defects, sap one edge, not to exceed one-half the length of the board or plank, and not to extend more than one inch on face side. 12 to 14 inches wide, 12 to 14 feet long, sap one edge, one inch on face side, two standard knots; in the absence of one knot, check one end if not more than 10 inches; if clear of knots, check both ends, not to exceed 10 inches; if without knots and checks, sap both edges, not to exceed one inch on face side, otherwise clear. 14 inches and over wide, 14 feet and

over long, sap one edge as per above, three three standard knots; if one is located within 12 inches of the end; if but two knots, check one end not to exceed 12 inches, this in addition to sap one edge; if but one knot, sap both edges, as per above; if clear of knots, sap both edges, as per above, check one end, if not more than 10 inches. Other defects admissible as per rule governing inspection, see No. 1 Cherry.

MOULDING STRIP GRADE.

This grade admits of strips from 3 to 6 inches wide, 10 feet and over long, clear face) which are not admissible into No. 2 grade, and will admit of some sap on sap side, but must not connect, as it would destroy the strength of the board.

CULLS—CHERRY.

Merchantable culls are such as cannot be admitted into No. 2 or moulding strip grades;

and will admit of defects regardless of location. There are merchantable and mill culls; a merchantable cull is any board or plank from which one-half its contents can be used or cut to advantage; such as cannot be used thus are mill culls and worthless.

REMARKS.

White or Red Oak. Standard inspection should be based on actual value, hence the inspecting of oak lumber would necessarily be more riged than that of walnut or cherry. A defect in high priced lumber does not diminish its value in proportion as a like defect would in common or low-priced lumber. Oak lumber should be carefully manufactured, allowing one-eighth of an inch in thickness, for drying and surfacing, and should be piled as soon as sawed, using dry or seasoned strips, and thus avoid *stain*, *burn* or *mould.* As oak is usually finished plain or antique, the more perfect the finish the more prominent the defects. Thin oak culls are worthless and should not be shipped, as they destroy in a measure the value of stock properly manufactured.

Inspection of Oak Lumber,— "Plain."

Grade No. 1. The least dimension admissible is 10 feet long, and 8 inches wide, which must be clear. 10 to 12 inches wide, 10 to 12 feet long, will admit of check in one end not to exceed 6 inches; if without check, and otherwise clear, any other defect instead; but must not destroy value beyond that of check. 12 to 14 inches wide, 12 to 14 feet long, check both ends not to exceed 6 inches, or corresponding defect or defects. 14 to 16 inches wide, 14 to 16 feet long, check one end not to exceed 12 inches, or two defects regardless of location, but must not change the value of board or plank as per one check one end not exceeding 12 inches. Over 16 inches wide, and over 16 feet long, check both ends, not to exceed 6 inches, or check one end not more than 14 inches. By admitting the above defects, boards and plank must be otherwise clear, except sap which is not considered a defect when applied to Oak.

Grade No. 2. (Oak, plain) 6 inches wide

and 10 feet long is admissible, but must be clear. 8 to 10 inches wide, 10 to 12 feet long will admit of one standard knot, regardless of location, but, if within 12 inches of the end, check one end not to exceed 6 inches, in addition to one standard knot. 12 to 14 inches wide, 12 to 14 feet long, two standard knots; if one knot is within 12 inches of the end, or two inches of the edge, check one end not to exceed 6 inches; if but one knot, check both ends not to exceed 8 inches. Over 14 inches wide and 14 feet long, three standard knots if one is within 20 inches of the end of board or plank; if but two knots, check one end not to exceed 8 inches; if but one knot, check both ends not to exceed 10 inches. Defects incident to oak lumber, such as stain, wormholes, &c., are admissible in the absence of such as are above mentioned, but must be located so as not to effect or change the value, both as to number and location.

CULL—OAK PLAIN.

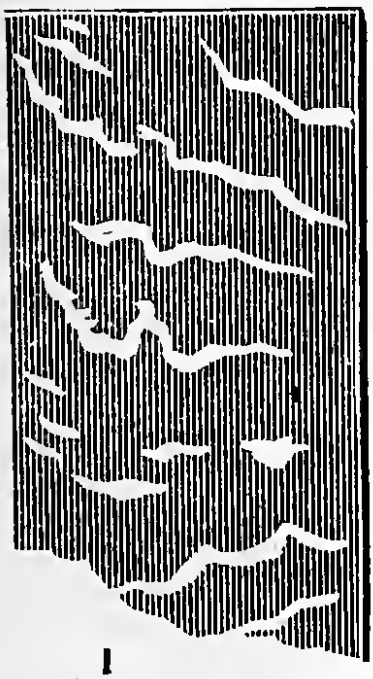
Merchantable cull oak will admit of defects regardless of location. A merchantable cull

is any board or plank, properly manufactured from which one-half its contents can be used or cut to advantage; otherwise it is worthless except for firewood.

QUARTERED OAK.

The market value of figured oak is governed by the lengths, widths and quality. There is no hardwood lumber that requires the exercise of better judgment in the selection of trees or logs than that of oak for quartering. The additional labor necessary in the manufacturing, is to secure a perfect or satisfactory figure. The more perfect the figure, the more valuable the lumber; well matured timber should be selected. The larger the diameter (if properly manufactured) the more perfect the figure To secure an average width of from 9 to 11 inches, it will require a diameter of not less than 30 inches. Small logs will not turn out satisfactory stock, as the figure is scarcely discernable and widths undesirable. But suppose the width to be acceptable it would not be economy on the part of

the manufacturer or owner of timber, to use small logs, as it would necessitate a waste of at least one-third the contents of log in order to secure a passible figure. Following see cut No 1 which represents what is termed a perfect figure- No. 2 imperfect or the result of small diameters :



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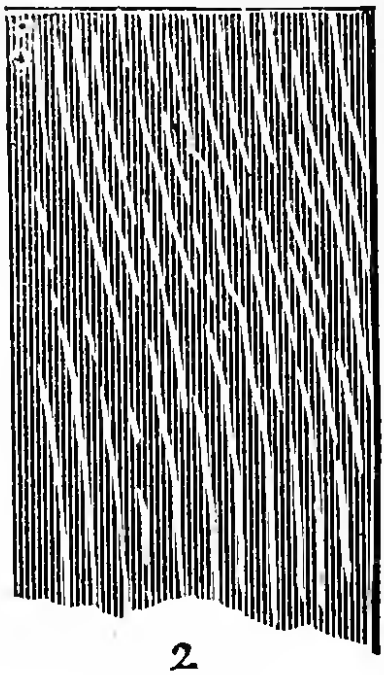

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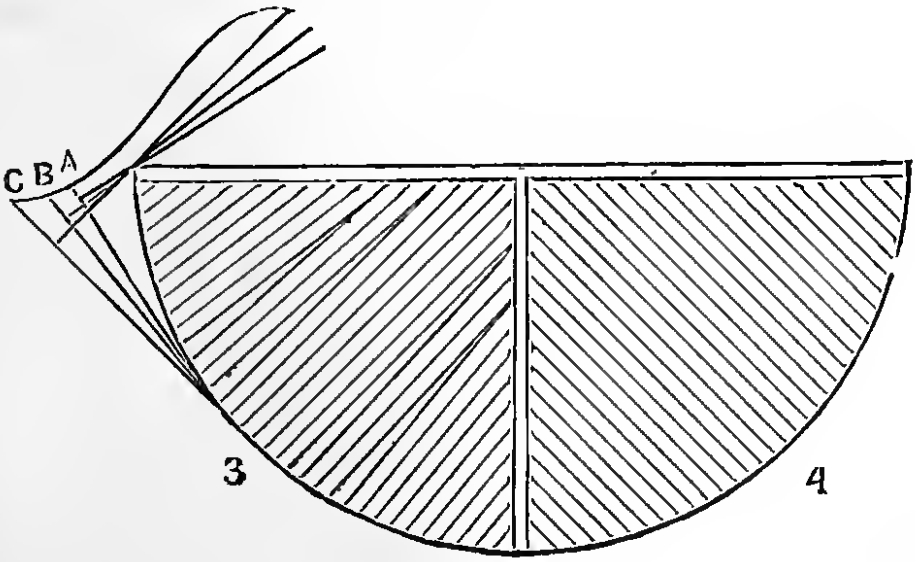

3 4

Figure 3. The end of log and how to cut so as to produce a desirable figure, as per cut No. 1. Letter A represents the first position of quarter on Head-block; B, second; C, third. The waste indicated by the wedge boards, (4 in number) as per cut No. 3, should be cut into half-inch boards, which are not objectionable.

Figure 4. Represents the ordinary way of quartering; the result of which turns out at least one-third the contents of log without a desirable or merchantable figure, as shown by cut No. 2.

Hence the increase of value more than compensates for waste, simply indicated.

REMARKS—ASH.

Ash Lumber. The inspection of ash, like that of oak, should be rigid, as it is more susceptible to defects, being porous or spongy. The same care should be exercised in preparing ash for market as that of oak, as it invariably receives what is termed "the natural wood

finish." If not thus finished, lumber of less value would be used instead, hence the importance of extra care that the natural brightness may be retained. Ash should be piled as soon as it leaves the saw, always using dry or seasoned strips, and thus preventing stain or burn.

Ash properly manufactured and carefully preserved, always finds ready sale.

INSPECTION—ASH.

Grade No. 1 The least dimension admissible, is 10 feet long and 8 inches wide, which must be clear. 8 to 10 inches wide, 10 to 12 feet long will admit of check one end, not to exceed 6 inches, or a corresponding defect, but must be located so as not to change the value. 12 to 14 inches wide, 12 to 14 feet long, check both ends not to exceed 6 inches, otherwise clear. 14 to 16 inches wide, 14 to 16 feet long, check both ends not to exceed 8 inches; in the absence of checks, other defects instead, as per rule governing value. Over 16 inches

wide, and over 16 feet long, will admit of defects corresponding to above lengths and widths; always bearing in mind that an extreme edge or end defect does not effect value as much as if located near the centre.

INSPECTION—ASH.

Grade No. 2. The least dimension admissible is 10 feet long, and 7 inches wide, clear face. 8 to 10 inches wide, 10 to 12 feet long, will admit of one standard knot; if without knot, check one end not to exceed 6 inches. 12 to 14 inches wide, 12 to 14 feet long, two standard knots; and check one end if one knot is within 12 inches of the end of board or plank; if clear of knots check both ends not to exceed 12 inches. 14 inches and over wide, 14 feet and over long, three standard knots, if one is within 12 inches of the end, or within 2 inches of the edge; two knots only, check one end not to exceed 12 inches; if but one knot, check both ends, not to exceed 10 inches. Defects incident to ash lumber,

not herein mentioned, are admissible in the absence of those mentioned, always observing number and location. Sap is not considered a defect.

Cull Ash. See White or Red Oak.

REMARKS—CHESTNUT.

The increasing demand for chestnut lumber clearly indicates its value. Although proportionately less valuable than other hardwoods (commanding like prices) if not properly manufactured, being porous and spongy, would naturally limit its use; chestnut, like other hardwoods, is invariably finished plain or antique, anything that is foreign to the natural cast is a defect, such as stain, mould, or burn, (as it is usually termed) and cannot be used to any better advantage than culls. As to the inspection of chestnut, you will observe the omission of defects, by name, but number and location. Defects governing the inspection of chestnut do not vary from that of walnut, cherry, oak or ash, viz: lengths, widths, knots,

checks, stain, wormholes, &c. It is not so much the defect as the location of the defect, as it is value sought after, due allowance should be made, when defects are located either on the extreme edge, or end of boards or plank.

INSPECTION—CHESTNUT.

Grade No 1. The least dimension admissible is 8 inches wide, 12 feet long, which must be clear. 10 to 12 inches wide, 12 to 14 feet long, one defect, not to exceed in dimension that of a standard knot, and not more than 8 inches from the end of board or plank. 12 to 14 inches wide, 14 to 16 feet long will admit of one standard defect, as per above, but must be within 2 inches of the edge, or within 12 inches of the end. 14 inches and over wide, 14 feet and over long, in addition to one defect, on edge or end, as per above, one other defect, if not more than 10 inches from the end.

Chestnut No. 2. 6 to 8 inches wide, 12 feet long, is admissible, and will admit of one very small defect on the extreme edge or end of

board or plank. 8 to 10 inches wide, 10 to 12 feet long, will admit of two standard defects if one is within 10 inches of the end; if but one defect, the other may be increased to twice the dimension of a standard knot, regardless of location. 12 to 14 inches wide, 12 to 14 feet long, will admit of three defects (standard in size) if one is within 12 inches of the end; in the absence of one or more, the dimension of the remaining ones, may be increased proportionately as per above rule 14 inches and over wide, 14 feet and over long, four standard defects, two of which must be within 12 inches of the ends, or within 2 inches of the edge, one edge only. All defects are admissible, but must be governed by the standard, as to number and location, and thus avoid changing the value.

CHESTNUT CULLS.

Cull chestnut will admit of defects regardless of location. A merchantable cull is any board or plank from which one half its con-

tents can be used to advantage; such as cannot be thus used are mill culls and worthless.

REMARKS—POPLAR.

Poplar boards and plank must be inspected on the poorest side; a standard knot is to be considered as not exceeding the dimension admissible in walnut, &c, and must be solid; all lumber must be sawed so that it will be the required thickness when seasoned; checks are considered defects, and will reduce a piece to one grade lower, if it extends more than 10 inches one end only; all lumber must be sawed square edged. Boards and plank having bark and wane must be reduced one grade, and measured inside the bark or wane, one inch, or less in thickness shall be measured face measure. All boards or plank badly manufactured shall be reduced one grade; standard lengths are 12, 14 and 16 feet. Length and width as well as quality governs the market value of poplar.

INSPECTION—POPLAR.

Grade No. 1. 1 inch to 2 inches in thickness; the least dimension admissible is 8 inches wide and 12 feet long, 8 to 10 inches wide, 12 feet long, must be clear. 11 to 13 inches, 1 inch of bright sap, will be allowed. 14 and 15 inches wide, 2 inches of bright sap will be allowed. 16 inches and over wide, 3 inches of bright sap will be allowed; one edge only, less than 12 feet long cannot be admitted into No. 1 grade.

Grade No. 2. 7 inches wide and 10 feet long, must be clear. 8 to 10 inches wide, 12 feet and over long, will admit of one inch of bright sap, otherwise clear. 11 to 13 inches wide, 2 inches of bright sap; if without sap, one standard knot, 14 to 15 inches wide, 3 inches of bright sap, and one standard knot; or two standard knots, if without sap. 16 inches and over wide, 4 inches of bright sap, 3 standard knots, if one is within 12 inches of the end; 2½ inch, 3 inch and 4 inch Nos 1 and 2 must be 10 inches, and over wide. Quality governed by the above rule of inspection

POPLAR SQUARES.

Poplar squares, 4 x 4 to 10 x 10 should correspond in quality to that of No 1 grade, at least free of heart and unsound knots.

POPLAR CULLS.

Merchantable cull poplar are boards and plank of any dimension such as cannot be admitted into No 2 grade. This grade will admit of defects regardless of location; but must possess a value equal to one-half the contents of board or plank; if not, it is a mill cull, and without value as lumber.

POPLAR STRIPS.

Poplar strips, 4 to 6 inches wide, must be clear face, and not less than 12 feet long.

DIMENSION STOCK.

The question as to why dimension stock does not command better prices is one of the

oft-repeated. To answer this question properly, would be to say that the majority of those engaged in the manufacturing of lumber in a regular way, cut the refuse into such stock, seemingly with but little knowledge as to what is actually required, or constitutes merchantable dimensions for turning purposes; such stock should be manufactured from trees well matured, and thus avoid *crook* or *spring*; *young sappy trees*, *limbs* or *slabs* will not furnish satisfactory stock unless cut into very short (merchantable) lengths; and must be free from *burl*, *crook* and *cross-grain*; walnut and cherry dimensions must be free from defects; ash, oak and poplar clear, except sap, which is not considered a defect when applied to dimension stock; the latter only with reference to boards and plank. Both large and small dimensions with heart in centre, or elsewhere, are worthless for turning purposes, as they are sure to check. It is merchantable stock only that commands satisfactory prices. Culls are worthless unless due allowance is made so as to enable purchaser to re-manufacture, both in length and thickness; if by so

doing, merchantable stock can be obtained this at the expense of the shipper.

TABLE 1.

DIMENSIONS REDUCED TO INCH BOARD MEASURE.

To find the number of feet (board measure) find the length (in inches) in the left hand column, the face or side dimensions in inches will be found at the head of each column, multiply the number of pieces by the numerator, (which is above the line) divide the result by the denominator which is below the line; the result will be the correct number of feet, board measure. For example, suppose there to be 100 pieces, 12 inches long and 2 by 2 face, or side dimensions; by reference to the *table* you will find that one piece contains $\frac{4}{12}$ of a foot; 100 pieces multiplied by 4, the numerator, (which is above the line) gives the sum of 400, this sum divided by 12, the denominator, (which is below the line) shows that 100 pieces contain 33⅓ feet, inch board

measure. Such as are marked thus * are the proper lengths for Phila. market; other lengths are irregular and seldom called for.

WALNUT, ASH AND OAK.

Newel Posts: 4 x 4 to 9 x 9. Standard length 4 feet or the multiple of 4, which is 8, 12, or 16 feet.

Balusters: 2 x 2, 2¼ and 2½, if cut for for Philadelphia market. There should be in each thousand pieces 750 36 inches long, and 250 32 inches long.

Table Legs: 3 x 3; 29 inches long. As to what constitutes merchantable dimensions, see page 36.

DIMENSION.—Board Measure.

1¼ x 1¼	1½ x 1½	1⅝ x 1⅝	2 x 2	2¼ x 2¼	2½ x 2½	3 x 3
Lgth.	Lgth.	Lgth.	Lgth.	Lgth.	Lgth.	Lgth.
12 $\frac{25}{192}$	12 $\frac{3}{16}$	12 $\frac{169}{768}$	12 $\frac{4}{12}$	*12 $\frac{27}{64}$	*12 $\frac{25}{48}$	12 $\frac{3}{4}$
13 $\frac{325}{2304}$	13 $\frac{117}{576}$	13 $\frac{2197}{9216}$	13 $\frac{13}{36}$	13 $\frac{1053}{2304}$	13 $\frac{325}{576}$	13 $\frac{13}{16}$
14 $\frac{350}{2304}$	14 $\frac{126}{576}$	14 $\frac{2366}{9216}$	*14 $\frac{7}{18}$	14 $\frac{1134}{2304}$	14 $\frac{350}{576}$	14 $\frac{7}{8}$
15 $\frac{375}{2304}$	15 $\frac{135}{576}$	15 $\frac{2535}{9216}$	15 $\frac{5}{12}$	15 $\frac{1215}{2304}$	15 $\frac{375}{576}$	15 $\frac{15}{16}$
*16 $\frac{400}{2304}$	16 $\frac{144}{576}$	16 $\frac{2704}{9216}$	16 $\frac{4}{9}$	16 $\frac{1292}{2304}$	16 $\frac{400}{576}$	16–1
17 $\frac{425}{2304}$	*17 $\frac{153}{576}$	17 $\frac{2873}{9216}$	17 $\frac{17}{36}$	17 $\frac{1377}{2304}$	17 $\frac{425}{576}$	17–1 $\frac{1}{16}$
18 $\frac{450}{2304}$	*18 $\frac{162}{576}$	*18 $\frac{3042}{9216}$	18 $\frac{6}{12}$	18 $\frac{1458}{2304}$	18 $\frac{450}{576}$	18–1 $\frac{1}{8}$
19 $\frac{475}{2304}$	19 $\frac{171}{576}$	19 $\frac{3211}{9216}$	19 $\frac{19}{36}$	19 $\frac{1539}{2304}$	19 $\frac{475}{576}$	19–1 $\frac{3}{16}$
20 $\frac{500}{2304}$	20 $\frac{180}{576}$	20 $\frac{3380}{9216}$	20 $\frac{5}{9}$	20 $\frac{1620}{2304}$	20 $\frac{500}{576}$	20–1 $\frac{1}{4}$
21 $\frac{525}{2304}$	21 $\frac{189}{576}$	21 $\frac{3549}{9216}$	21 $\frac{7}{12}$	21 $\frac{1701}{2304}$	21 $\frac{525}{576}$	21–1 $\frac{5}{16}$
22 $\frac{550}{2304}$	22 $\frac{198}{576}$	22 $\frac{3718}{9216}$	22 $\frac{11}{18}$	22 $\frac{1782}{2304}$	22 $\frac{550}{576}$	22–1 $\frac{3}{8}$
23 $\frac{575}{2304}$	23 $\frac{207}{576}$	23 $\frac{3887}{9216}$	23 $\frac{23}{36}$	23 $\frac{1863}{2304}$	23 $\frac{575}{576}$	23–1 $\frac{7}{16}$

24	$\frac{600}{2304}$	24	$\frac{216}{576}$	24	$\frac{4056}{9216}$	24	$\frac{8}{12}$	*24	$\frac{1944}{2304}$	*24–1	$\frac{24}{576}$	*24–1	$\frac{1}{2}$
25	$\frac{625}{2304}$	25	$\frac{225}{576}$	25	$\frac{4225}{9216}$	25	$\frac{25}{36}$	25	$\frac{2025}{2304}$	25–1	$\frac{49}{576}$	25–1	$\frac{9}{16}$
26	$\frac{650}{2304}$	26	$\frac{234}{576}$	26	$\frac{4394}{9216}$	26	$\frac{13}{18}$	26	$\frac{2106}{2304}$	26–1	$\frac{74}{576}$	26–1	$\frac{5}{8}$
27	$\frac{675}{2304}$	27	$\frac{243}{576}$	27	$\frac{4563}{9216}$	27	$\frac{9}{12}$	27	$\frac{2187}{2304}$	27–1	$\frac{99}{576}$	27–1	$\frac{11}{16}$
28	$\frac{700}{2304}$	28	$\frac{252}{576}$	28	$\frac{4732}{9216}$	*28	$\frac{7}{9}$	28	$\frac{2268}{2304}$	28–1	$\frac{124}{576}$	28–1	$\frac{3}{4}$
29	$\frac{725}{2304}$	29	$\frac{261}{576}$	29	$\frac{4901}{9216}$	29	$\frac{29}{36}$	*29–1	$\frac{45}{2304}$	*29–1	$\frac{149}{576}$	*29–1	$\frac{13}{16}$
30	$\frac{750}{2304}$	30	$\frac{270}{576}$	30	$\frac{5070}{9216}$	*30	$\frac{10}{12}$	30–1	$\frac{126}{2304}$	30–1	$\frac{174}{576}$	30–1	$\frac{7}{8}$
31	$\frac{775}{2304}$	31	$\frac{279}{576}$	31	$\frac{5239}{9216}$	31	$\frac{31}{36}$	31–1	$\frac{207}{2304}$	31–1	$\frac{199}{576}$	31–1	$\frac{15}{16}$
*32	$\frac{800}{2304}$	32	$\frac{288}{576}$	32	$\frac{5408}{9216}$	*32	$\frac{8}{9}$	32–1	$\frac{288}{2304}$	32–1	$\frac{224}{576}$	32–2	
33	$\frac{825}{2304}$	33	$\frac{297}{576}$	33	$\frac{5577}{9216}$	33	$\frac{11}{12}$	*33–1	$\frac{369}{2304}$	*33–1	$\frac{249}{576}$	*33–2	$\frac{1}{16}$
34	$\frac{850}{2304}$	*34	$\frac{306}{576}$	34	$\frac{5746}{9216}$	34	$\frac{17}{18}$	34–1	$\frac{450}{2304}$	34–1	$\frac{274}{576}$	34–2	$\frac{1}{8}$
35	$\frac{875}{2304}$	35	$\frac{315}{576}$	35	$\frac{5915}{9216}$	35	$\frac{35}{36}$	35–1	$\frac{531}{2304}$	35–1	$\frac{299}{576}$	35–2	$\frac{3}{16}$
36	$\frac{900}{2304}$	*36	$\frac{324}{576}$	*36	$\frac{6084}{9216}$	*36	$\frac{12}{12}$	*36–1	$\frac{612}{2304}$	*36–1	$\frac{324}{576}$	*36–2	$\frac{1}{4}$

WEIGHT OF HARDWOODS.

The following list, giving the weight of hardwoods, per foot, board measure, can be relied on by shippers of lumber; notwithstanding that the same species of wood differs some little in weight, both green and dry.

	GREEN.	DRY.
	Lbs. to 1 foot.	Lbs. to 1 foot.
Walnut,	4½	3½
Cherry,	4	3¼
Ash,	4½	3½
Mahogany,	5¼	4¾
Oak,	5	4½
Chestnut	4	3
Apple,	5	4
Birch,	4¼	3½
Cottonwood,	4½	3
Cypress,	4	2½
Cedar,	4	3
Elm,	4	3
Hickory,	5	4½
Maple,	5	4¼
Poplar,	3¼	2¾
Sycamore,	5	4
Beech,	5	4¼
Rosewood,	8	6¾
Holly,	5¼	4½

IMPORTANT TO SHIPPERS.

To misrepresent does not increase value, but in almost every instance works injury to both shipper and receiver. State plainly and unequivocally what you have; how long it has been on strips, if log run, or certain grades or grade; the average width, the proportion of lengths under 12 feet; also the proportion of different thicknesses; and thus save time, trouble and money.

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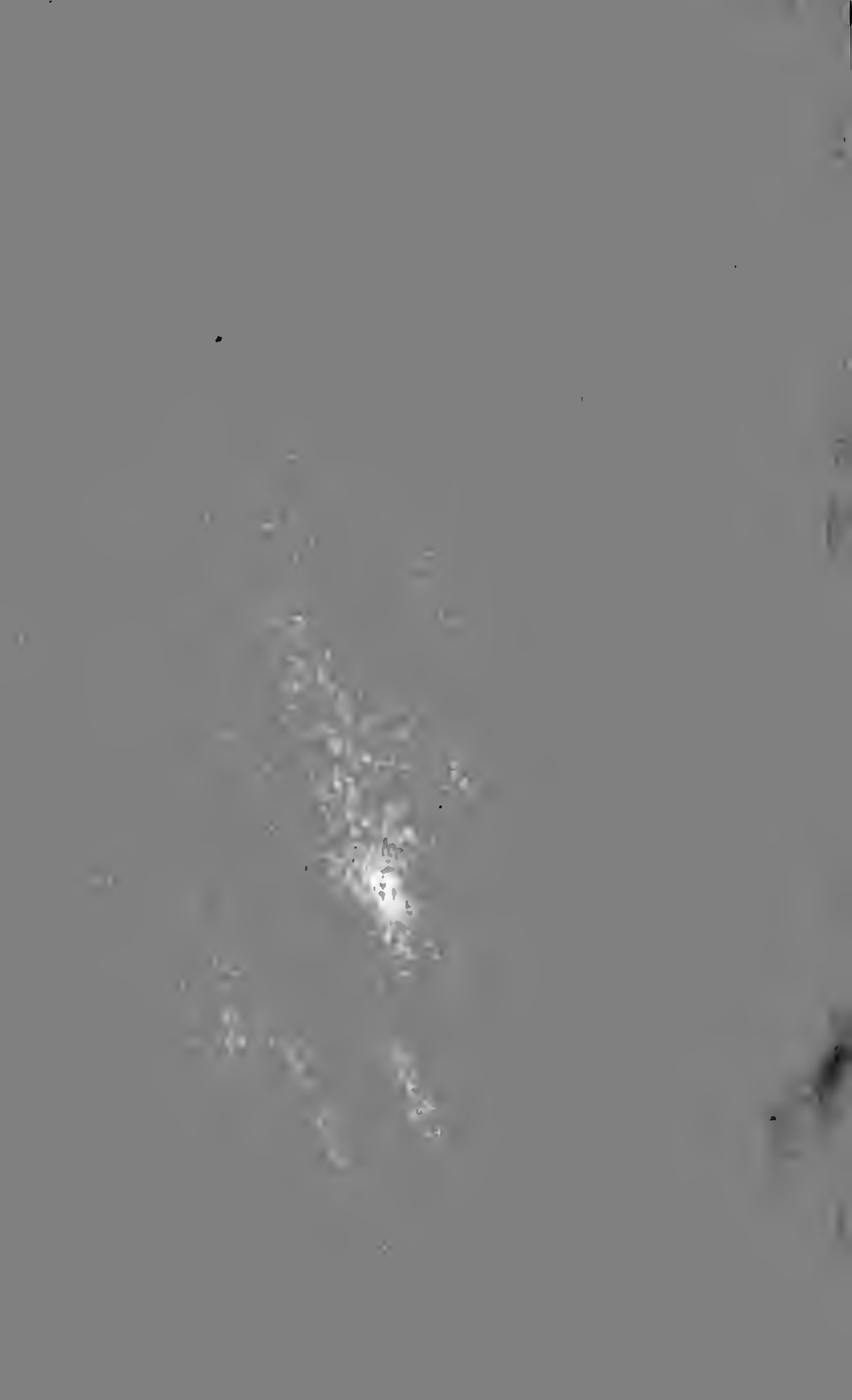

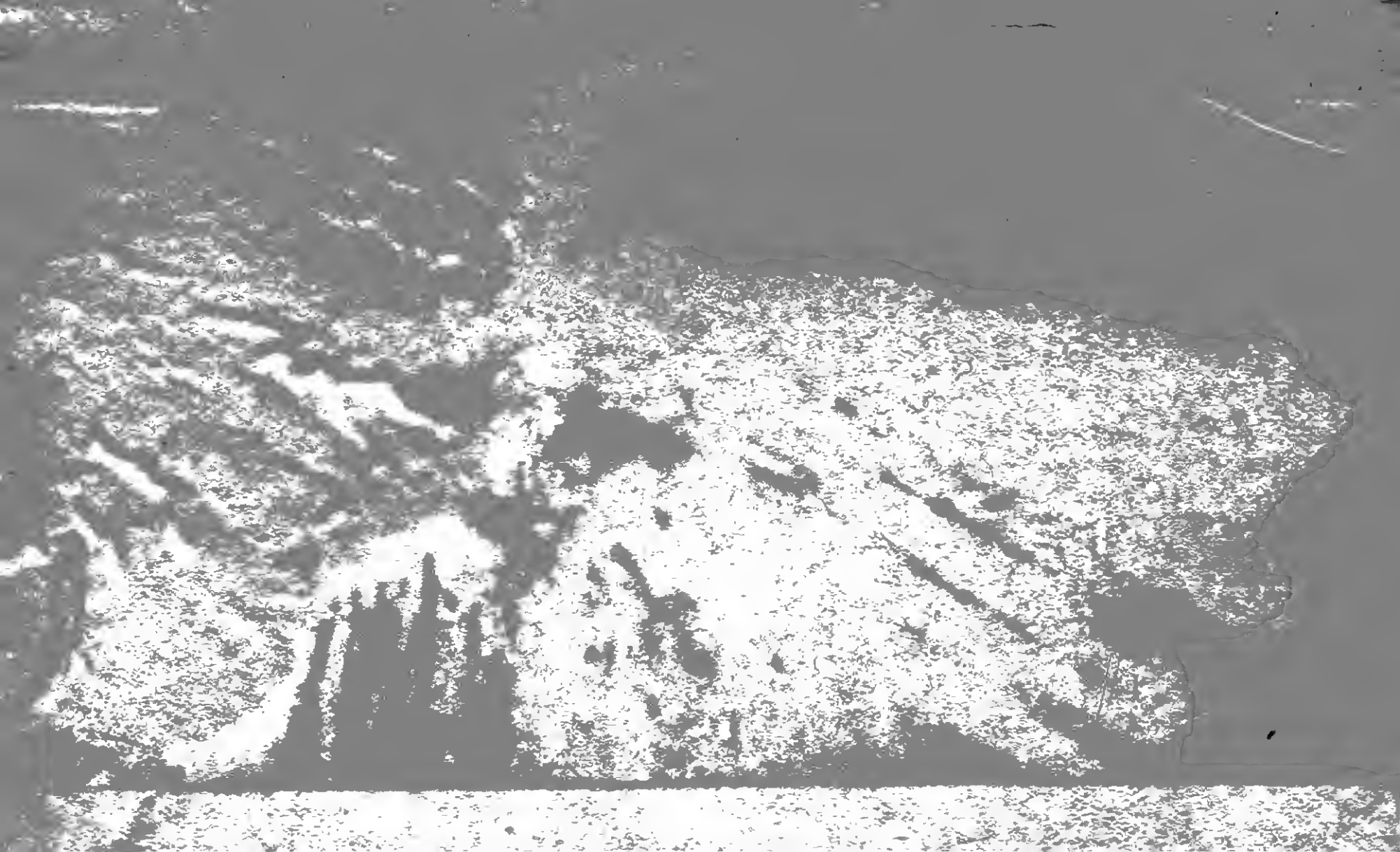

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